



Professional Engineers
and Geoscientists of BC

October 2010

The 4th Dimension

Association of Professional Engineers and
Geoscientists of BC
Victoria Branch Newsletter
www.apeg.bc.ca/vic

Next Event – Thursday October 14th a rare behind-the-scenes tour of the Herzberg Institute of Astrophysics. Online Registration closed. \$30 at door.

Join the Victoria Branch of APEGBC for a rare behind-the-scenes tour of the Herzberg Institute of Astrophysics. You've seen the planetarium tour, you've seen the telescope, now take a peek at the cutting edge of humanity's science and engineering -- it's right in our own backyard! This is an exceptional tour, and the presentation will focus on the technological achievements of Victoria's observatory and how research in Victoria echoes across Earth and beyond...

[NRC HIA Web Site](#)

Date: Thursday, October 14, 2010

Registration: On-line registration is closed.

Time: We are serving a social "continental dinner" at 5:30 PM with a talk and tour to follow at about 6:30 PM.

Cost: Dinner and tour is \$28.

Location: Herzberg Institute of Astrophysics, 5071 West Saanich Road
Victoria, British Columbia, V9E 2E7 ([Driving Directions](#))

Credit: 1.0 Professional Development Hour (PDH)

Talk: Scott Roberts – Scott is a mechanical engineer within the astronomy technology research group here at the Herzberg Institute and is the Project Lead here at HIA as well as the “Deputy of System Engineering Group Leader” for the international team constructing this one billion dollar behemoth. Scott will speak about TMT .

(TMT website <http://www.tmt.org/>)

Lab tour:

ALMA Band-3 tour - Band-3 is the primary Canadian contribution to the international Atacama large Millimeter Array to be located at around 16,000 ft in the Chilean desert. Band-3 is the receiving device for this radio (mm / sub mm) telescope array and has been described as the “most sensitive receiver ever built”. Keith Yeung and Stephane Claude will provide the tour and explanation of the Band-3 device and lab. Keith is an electronics engineer here at HIA and is the ALMA Band-3 project manager. Stephane is the team leader for millimeter instrumentation here at HIA and is the project engineer for Band-3. (ALMA website <http://www.almatelescope.ca/Welcome.html>)

GPI – The Gemini Planetary Imager is an adaptive optics device designed to hunt down

extrasolar planets i.e. planets outside our own solar system. Les Saddlemyer will guide the group through this lab and explain the functioning of the instrument. Les is a system engineer here at HIA and is the HIA project manager and systems engineer for this project. (GPI website <http://planetimager.org/>)

Note: On-line registration is through APEGBC (<http://www.apeg.bc.ca/> and go to Events)

If you have recently received your P.Eng., P.Geo, EIT or GIT and wish to receive your APEGBC certificate and complimentary dinner at this or upcoming events, please contact Magnus McElroy, Branch Chair at magnus@shaw.ca

Last Event – September 15th – Victoria Waste Water Treatment. This seminar was organized by Rob McDermot and was one of the best attended seminars we have had for years.

The four guest speakers were:

- Mr. Jack Hull, P.Eng – Project manager for the proposed wastewater treatment facility that will handle the sanitary sewage from the CRD
- Dr. Jack Littlepage, PhD. - Oceanographer from the University of Victoria and contributor to Elsevier Marine Pollution Bulletin
- Dr. Shaun Peck, MD - CRD Regional Medical Health Officer 1989-1995 and Deputy Provincial Health Officer 1995-2004
- Dr. Keith Martin, MD – Member of Parliament for Esquimalt-Juan de Fuca and opposed to the proposed manner of treating Greater Victoria's Wastewater.

The presentations put forward were very informative. Mr. Hull provided an excellent engineering and regulatory requirement overview of the proposed wastewater treatment facility. In summary, the estimated capital cost for the plant, which is planned for McLoughlin Point, is \$782 million with annual operating costs of 14.5 million. Annual resource recovery revenues are estimated at 3.1 million by 2030, and the annual carbon offset potential is estimated at 18,500 tonnes from gas and heat recovered from the wastewater. .

The CRD Liquid Waste Management Committee's selection of the configuration of the wastewater treatment facility is not without its detractors. The presentations from Dr. Jack Littlepage, PhD and Dr. Shaun Peck, MD both maintained that the effects of the present discharge from the deep-water diffusers at Clover Point and Macaulay Point are approximately 100m and 200m respectively. They stated that It makes no sense to replace a natural ecosystem service with a human creation that is energy inefficient and has other harmful environmental consequences. Dr Keith Martin endorsed the opinions of Dr Littlepage and Dr Peck.

The issue of the wastewater treatment of Victoria's sewage is divisive. The evening's lectures provided attendees with useful information for the different aspects of the debate. If you are interested in this topic, we recommend that you visit the following web sites.

- CRD website "Wastewater Treatment Made Clear"
<http://www.wastewatertreatmentclear.ca/inthecrd/esquimalt.htm>

- ARESST (The Association for Responsible and Environmentally Sustainable Sewage Treatment in Victoria) www.aresst.ca
- RSTV (Responsible Sewage Treatment Victoria) www.rstv.ca

Next Executive Meeting

Wednesday Nov 3rd. Upper Deck – Lower dining Room – 229 Gorge Road East. 5:30pm.
Please note that the executive meetings are open to all members and dinner is provided.

LETTERS TO THE EDITOR:

A new section in our newsletter where we publish letters from our members. The opinions of our members is not necessarily endorsed by our editor, our chapter nor APEGBC. Please submit your letters/comments/opinions on any subject related to topics in our profession to vic@apeg.bc.ca

The following letter was received from Rob McDermot, PEng

Wastewater Treatment is it worth the \$ 1.43 Billion price tag?

At the outset I would like to express my sincere appreciation to each of the speakers that contributed to making the September 15 APEGBC meeting the success it was, in particular Mr. Jack Hull, P.Eng – Project manager for the proposed wastewater treatment facility. His agreeing to present knowing full well the positions of each of the other three speakers is truly admirable. None the less, the arguments put forward by each of: Dr. Jack Littlepage, PhD – Biological Oceanographer; Dr. Shaun Peck, MD – former Deputy Provincial Health Officer; and Dr. Keith Martin, MD – Member of Parliament for Esquimalt-Juan de Fuca, lead one to question why the various levels of government feel it is necessary to throw taxpayers money away on a method of wastewater treatment that will have negligible net benefit to the Environment and a **HUGE** negative net benefit to the pocketbook of every resident of the Capital Regional District.

Each of the presentations put forward were very informative. Mr. Hull provided a polished presentation on the merits of the proposed wastewater treatment facility, which is scheduled to be built at McLaughlin Point for an estimated capital cost of \$782,000,000.00 plus or minus 25%... if one were to assume the higher of the estimates, the likely capital cost would be closer to \$977,500,000.00. Then there is the annual operating cost of \$14,500,000.00 plus or minus 25%. Following the previous logic the likely cost would be \$18,125,000.00 each and every year the facility is in operation. Therefore based on a 25 year design-life, the total cost of the facility could be as high as \$1,430,625,000.00... or \$1.43 Billion.

\$1.43 Billion is a very dear price to pay, but it's to protect the environment... so it's OK, right? Not so! After listening to presentations from Dr. Jack Littlepage, PhD and Dr. Shaun Peck, MD one realizes that effects of the discharge from the deep-water diffusers are restricted to within 100m at Clover Point and within approximately 200m east of the Macaulay Point outfall diffuser. In fact, to quote the *November 2008 Sewage Outfall Monitoring Test Results*:

The concept of **natural** sewage treatment has been criticized in the media, but in fact waste treatment is well recognized as a useful ecosystem service contributing to human well-being (Costanza et al., 1997; Boyd and Banzhaf, 2007). The focus of environmental protection is

changing to preserving such ecosystem services to the benefit of both human beings and the natural environment (e.g., USEPA, 2008). **It makes no sense to replace a natural ecosystem service with a human creation that is energy inefficient and has other harmful environmental consequences.**

All of which leads one to question why this is being endorsed. It is one thing to be blissfully ignorant of the science behind the issue, but to throw away the taxpayers money, our money, on an installation that, according to the scientists and medical professionals, will do **absolutely nothing** to correct the real dangers to our waters, (Arsenic, Chromium, Lead, Zinc, Mercury, PCBs and PBDEs) is irresponsible! Keep in mind the cost to build and maintain this less than effective solution could be \$1.43 Billion... that's more than the cost of **18** new Johnson Street Bridges, or **59** McTavish Rd/Hwy 17 Overpasses, to build a facility that could end up having a greater negative impact on the Environment as a whole than if we left the situation the way it is!

Toward the end of Dr. Jack Littlepage's presentation he listed the following items as requisites for the protection of the marine environment:

- Inclusion of the present system (plus enhancements) in the "triple bottom line" (environmental, social, economic) comparison of options
- Greater public understanding of the Victoria Marine Discharge System
- Action on more pressing marine environmental* and public health issues
- Action on storm sewer discharges and their connections to sanitary sewers
- HONEST AND OPEN DISCUSSION!

**Habitat protection, prevention of introduction of non-native species, regulation of fishing practices, elimination of some persistent pollutants*

He concludes his presentation with this rather telling statement: "Land-based treatment of Victoria's sewage is a low priority for marine environmental protection," and to back up his statement he cites the Marine Pollution Bulletin, October 2008. If an expert in the field of Oceanography feels that the proposed wastewater treatment facility is a "low priority" and if the former Regional Medical Health Officer feels "there is no measurable public health risk from Victoria's current method of offshore liquid waste disposal...", then why is this facility being built?

It is not too late for us to have our opinions heard. This Wastewater Treatment Facility is not a "done-deal", but the window of opportunity to have our opinions heard is fast closing. It is critically important to let those in power know how we, the taxpayers, feel about this decision. If you are interested in saving yourself somewhere in the neighbourhood of \$400.00 to \$500.00 of taxes per annum for as long as you choose to live in Greater Victoria, then please visit the websites ARESST (The Association for Responsible and Environmentally Sustainable Sewage Treatment in Victoria) www.aresst.ca and RSTV (Responsible Sewage Treatment Victoria) www.rstv.ca

Please make your voice heard.

Sincerely Rob McDermot PEng

Upcoming Events

To encourage more attendees at our various events throughout the year, the executive have planned the dates and talks ahead of time. Also each event will be the responsibility of one of the executive members. So please mark up your calendars with the following dinner meetings and talks.

Oct 14	Observatory (behind the scenes)	Magnus McElroy
Nov 17	Presidents visit, Lunch	Mark Robinson
Nov 18	Software	Mark Robinson
Dec 8	Log book seminar	Magnus McElroy
Jan 25 (Tue)	Burns night	Duane Marriner
Feb 2	Log book seminar	Magnus McElroy
Feb 17	Tour of Schneider	Daphne Sidaway-Wolf
Mar 18	Student / Talbot / Brewery	Tom McLean
Apr 14	Dockyard Ship tour	Richard Summers
May 26	AGM and Bridge Disasters	TBD

November 18th, 2010 Software Talk (details to come from Mark Robinson)

January 25th, 2011 Burns Night (details to come from Duane Marriner)

February 17th, 2011 Tour of Schneider (details to come from Daphne Sidaway-Wolf)

March 18th, 2011 Student / Talbot / Brewery This event, now in its ninth year, focuses on students and their accomplishments. Accordingly, we plan to present 2 bursaries in memory of Richard Talbot PEng. The planned venue is one of the local small scale breweries.

April 14th 2011 Dockyard Ship Tour

2010 is the Canadian Naval Centennial so you may have had seen more ships and sailors than usual around Victoria. If you found this interesting, you should join us on April 14, 2011 for an APEGBC visit to Her Majesty's Canadian Dockyard in Esquimalt. Last year's event gave members a detailed tour of HMCS PROTECTEUR and the opportunity to share experiences with members of the crew. In 2011 we hope to visit a frigate or destroyer. The event will open with a buffet dinner in the Officers' Mess (best view in town) followed by a tour. The tour will not be suitable for members not comfortable walking or negotiating ladders. Event organizer is Richard Summers, rjsummers@shaw.ca.

April 14th 2011 AGM and Bridge Disasters (coordinator to be determined)

New Event - APEGBC Victoria Chapter Bicycle Tour - Saturday, October 16th at 9:30 AM

The local chapter of APEGBC is organizing a fun opportunity for local engineers, their family and friends to go on a friendly cycle tour of the Galloping Goose on Saturday, October 16th at 9:30 AM. The tour will start at the Westhills Town Centre in Langford (next to the Oak Bay Bicycles shop) and will head west on the Goose. There will be a group picture at the start of the tour and cyclists are encouraged to travel at their own pace (this is not a race). The tour will stop at Matheson Lake for a snack and then return to Langford for around noon; tour

length will be approximately 30 kms. The Goose in this section is quite flat and well marked making it appropriate for all skill levels. There are several road crossings where cyclists will have to proceed with caution; proper safety gear (particularly helmets) is recommended. Hope to see you there!

Career Listings

The **Career Listings** email is sent weekly and is a service of APEGBC. To receive the career listing email messages, log in to the APEGBC Member Portal and update your e-mail subscriptions.

A Call for Volunteers

If you are interested in joining the Branch Executive or know of potential candidates please forward these names to the Branch Chair Magnus McElroy or contact any member of the executive (see last page of newsletter).

Thanks to Mike Miller

Mike Miller has handed over the Victoria Branch's treasurer's position to Mark Robinson. Thank you Michael for your many years of contribution to the Victoria Branch and to the professions of engineering and geoscience.

More Upcoming Events

APEGBC Annual Conference, Whistler October 21-23. Join us as we celebrate the accomplishments in the professions of engineering and geoscience at the APEGBC Annual Conference.

APEGBC, Victoria Branch

Victoria Branch Dinner Meetings will be held as per the schedule outlined above. Everyone is welcome to attend these meetings as well as the Branch Executive meetings held every month. Please plan to come out, have fun, learn something, meet someone and support your profession!

Vancouver Island Chapter of APEGBC

The VI chapter would like to invite any of the Victoria chapter members to its monthly meetings.

APEGBC

APEGBC puts on a number of seminars and courses throughout the year. Although most of these are on the mainland there are a few on the island. The following is a list of those planned for the island in the next month or two. For a complete list and details please go to the APEGBC website at www.apeg.bc.ca

Canadian Geotechnical Society (CGS)

Meetings are normally held the third Friday of each month from September to May, excluding December. For details, the website: is <http://www.cgs.ca/english/reg-div/vic-loc.html#news>.

Engineering Institute of Canada (EIC), Vancouver Island Branch

For information on the next meeting, please link to: <http://civil.camosun.bc.ca/vib-eic/>. Luncheon Meetings occur on the first Friday of the month (except July and August). For details, call Bruce Barnewall at 356-0762 or e-mail Bruce at bruce.barnewall@gov.bc.ca

The Vancouver Island Advanced Technology Centre (VIATEC)

VIATEC is the conduit that connects people, knowledge and resources to grow a successful technology sector on Vancouver Island. To learn more about VIATeC go to www.viatec.ca.

Advertisements

While APEGBC – Victoria Branch is not in a position to endorse advertisements, we do provide them as a service to our members. The advertising rates are \$200 for eight continuous advertisements and \$30 for a single advertisement.

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Victoria Branch Executive Chair

Magnus McElroy
magnus@shaw.ca

Vice Chair

Richard Summers
richard.summers@forces.gc.ca

Past Chair

Eric Pettit
250-475-6355
eric.pettit@genivar.com

Secretary

Kathy Lokhorst
lokhorst@camosun.bc.ca

Treasurer

Mark Robinson
mark@mrobinson.ca

Communications

Simon Skey
250-412-2382

sskey@shaw.ca

Events Coordinator

Duane Marriner
250-370-9302
duane@wakefieldacoustics.com

Ex Officio

Speakers Coordinators

Marcel Gingras
marcel.gingras@forces.gc.ca

Andy Jani
Andy.Jani@gov.bc.ca

Recognition

Gary Bartlett 250-386-4342
garybartlett@ralmax.com

Member-at-Large (Secretary back-up)

Gordon Porritt (Back up) 250-477-3046
gporritt@telus.net

Member-at-Large (Comms back-up)

Bruce Sellars 250-658-1480
gaspower@shaw.ca

Member-at-Large (Events Assistant)

Daphne Sidaway-Wolf
Daphne.sidawaywolf@gov.bc.ca

Member-at-Large

Marty Cole
martycol@telus.net

Ex Officio (Liaison)

UVic Liaison

Poman So 250-472-4224

Poman.So@ECE.Uvic.ca

Camosun Liaison/ Spaghetti Bridge

Peter Fell 250-370-4506

FellP@camosun.bc.ca

Talbot Fund

Tom McLean 250-475-3698

TMclean@wellwest.ca

Math Counts

Duane Marriner 250-370-9302

duane@wakefieldacoustics.com

Science Fair & Special Awards

Joshua Hayes 250-480-1132 X204

Joshua.hayes@telus.net